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Audubon Field Notes

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AUDUBON FIELD NOTES

A bimonthly magazine devoted to the results of bird watching

Published by the National Audubon Society in Collaboration with the U. S. Fish & Wildlife Service

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Cover photograph of egrets and little blue herons by Allan D. Cruikshank

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THE BASIS AND AIMS OF AUDUBON FIELD NOTES

The publication of *Audubon Field Notes* is now one of the largest co-operative undertakings in bird study. Since the July 1947 issue, this periodical has been produced through the collaboration of two of the largest conservation organizations – the National Audubon Society and the U. S. Fish and Wildlife Service. The National Audubon Society, which launched *Audubon Field Notes* as a magazine independent of its parent journal *Audubon Magazine* with the January 1947 issue, has continued to give it the necessary financial backing and to supply assistance in the production of the magazine through the service of one of its staff members as an associate editor. The Fish and Wildlife Service contributes the services of three of its ornithologists, who act as editor and associate editors, and makes available its resources of bird records (from maps and files) and coordinates its own distribution and migration observers cooperative program with that of *Audubon Field Notes*.

An important element in this cooperative enterprise is the group of 14 Season Editors, who are literally regional representatives of *Audubon Field Notes*, organizing the information and writing up reports based on the notes of the observers. The Season Editors are really the key to the success of the section "The Changing Seasons."

The real basis of this cooperative program is, of course, the interest and effort of the individual observers who supply the records, whether they be for the Season reports, Christmas Counts, Breeding Bird Censuses, or Winter Bird Population Studies and without which there could be no *Audubon Field Notes*. On the quality of the records of the field observers, whether obtained by individuals working alone, or by organized groups or bird clubs, rests the value of the contribution made by *Audubon Field Notes* to the knowledge and understanding of the birdlife of North America. We do not have a very definite estimate of the total number of bird observers who are actually contributing to *Audubon Field Notes* at the present time because many of them contribute through their organizations. However, if the number were known, it probably would be surprisingly large. We are, at present, trying to obtain through our Season Editors the names and addresses of all contributors. It would be appreciated if all contributing clubs would make available to us names and addresses of their members who are participating. Potentially the number of contributors is as large as the total number of persons engaging in field observations of American birds. It should be mentioned here that the individual observers also make up a large percentage of the subscribers to the magazine and, therefore, are doubling their contribution to the success of the undertaking.

Our readers have probably been conscious of a gradual change in the number and in the areas of the various Season reports, which has been taking place during the past year, and they may have been curious as to the ultimate objectives. Since this is a cooperative undertaking we wish to keep our cooperators and readers informed as to just what we are striving for and why. In the first place we feel that in order to be most effective, *Audubon Field Notes* should devote itself primarily to reporting those observations which pertain to the seasonal distribution and abundance of birds in relation to their environment. For this reason we have featured the "Changing Seasons," by means of which we strive to give simultaneous pictures of the distribution and relative abundance of birdlife, season by season, and if possible interpret any changes or diversions from normal, as the result of climatic or other environmental factors. The increase in abundance of gulls, cormorants, and shorebirds along the Atlantic Coast and the changing fortunes of our hard-pressed waterfowl can only be followed adequately, by large scale cooperative undertakings such as the "Season" program of *Audubon Field Notes*. Such interesting trends as the northward expansion of the ranges of many "southern" birds such as the mockingbird, cardinal, and some of the herons have been documented in this way. It is our objective to expand the coverage of the present regions and add new ones so that eventually the whole of the United States and settled portions of Canada are covered. In doing this we are minimizing political boundaries in delineating our regions and attempting to make them conform to natural or ecological boundaries insofar as practical.

A relatively new practice to obtain more complete information on the distribution of North American birds has been to publish in *Audubon Field Notes* the distribution maps from the files of the Fish and Wildlife Service. Readers are urged to help make these maps more nearly complete by supplying records to fill apparent gaps in distribution or to rectify incorrect relative abundance status indicated on the maps. Eventually many of these maps will be republished showing these corrections.

An additional approach of obtaining information on relative abundance simultaneously at a number of points throughout the country is the "Christmas Bird Count" which has become an institution to American bird-students.

One of the most important types of bird study is that in which an attempt is made to obtain more exact figures on actual abundance of birds at times of the year when they are relatively sedentary and therefore more easily accounted for. Such studies are being encouraged through the "Breeding Bird

Census" and "Winter Bird Population Study" sections, each of which occupies one issue a year. Exact information about numbers of birds per unit of habitat is vitally important in determining what types of habitat produce the largest numbers and greatest variety of birds so that we can appraise the effects of various land uses such as agriculture, forestry, and industry on birds by the way they modify habitats. Bird students who have become proficient in the basic methods of identification and recording of species are urged to extend their activities to include breeding and winter bird censusing. It may seem more confining but the results are likely to be of great value.

It may be stated then that the basic objective of *Audubon Field Notes* is to give as many as possible of the individual bird-watchers of America – whether they be professional bird-students or seriously interested amateurs – a chance to cooperate in presenting just as accurate a picture as possible of the current conditions of birdlife in their respective regions, so that they may know that they are contributing toward a knowledge of these conditions and the reasons for them, both as an interesting permanent record and also as an aid to conservation agencies in keeping track of changing trends in abundance of birds. – *Editor.*

THE CHANGING SEASONS

A Summary of the Nesting Season

Ludlow Griscom

Weather conditions are reported only when having a marked effect on the success of the nesting season. In central California, after a cold spring, excellent conditions prevailed from April to July; high temperatures (and the normal drought) reduced the supplies of insects and water, abruptly terminated the breeding season, and the birds began to depart rapidly. Extreme drought conditions in coastal Texas caused a very bad season for most water and marsh birds. On the other hand, extremely dry conditions in Minnesota did *not*, apparently, produce any markedly adverse effects. A series of very high tides on the coasts of the Carolinas and Virginia caused a great loss of eggs and chicks in the tern and skimmer colonies. Prolonged cool weather and heavy rains in southern New England caused a marked disruption of the breeding season. Those birds which feed by catching insects on the wing suffered most. There was positive evidence of severe mortality in the chimney swift and purple martin, and many cliff swallow colonies in eastern Massachusetts evaporated. Many species gave up nesting in late May and June, but began (again?) in late June and July. This resulted in a protracted song period, and very late broods in late July and early August.

Never have so many season reports, written so interestingly and in such detailed fashion, described the population shifts and trends in their respective areas. More important still, while the trends are undoubtedly validated by competent observation, the *causes* back of them are obscure. As an example, I select Dr. Brook's summary of two species of wren in Ohio, West Virginia and Virginia. The Bewick's wren nested locally in the mountain valleys; about 30 years ago house wrens began invading these valleys, and apparently drove the Bewick's wrens out; now the latter is coming back once more, and appears able to hold its own. Certain questions automatically arise: 1) what caused the invasion of the house wren; 2) did the house wren drive its cousin out, or was the decrease of Bewick's a pure coincidence due to unknown causes; 3) if the former, how did Bewick's wren acquire its present competitive competence; 4) or if the latter, what caused the new invasion of Bewick's wren? I suspect that the answers to most of these questions would require much more detailed information on the dynamics of competition between species than we now possess.

The only decrease reported due to the severe winter in the northeast was the bob-white in southern Massachusetts, and the Carolina wren in the New York City area.

The following birds are among those continuing their northward trend of recent years. Louisiana heron, first breeding record for N. J.; turkey vulture invading Ontario and southern New England; red-shouldered hawk invading Minnesota and northern New England; oyster-catcher now nesting in southern New Jersey; blue-gray gnatcatcher increasing as a summer resident throughout New Jersey; prothonotary warbler nesting in northern New Jersey; cerulean warbler spreading eastward into Virginia, northeastward into New Jersey, and now recorded annually in spring north to eastern Massachusetts; hooded warbler invading New England, now nesting almost throughout Connecticut, regularly in Rhode Island, and recorded annually in spring in eastern Massachusetts; the blue-winged warbler and yellow-breasted chat now frequent to common in southeastern Minnesota, the summer tanager invading Ohio and West Virginia; the blue grosbeak spreading northward in Maryland and to southern New Jersey, with 5 recent records in Ontario.

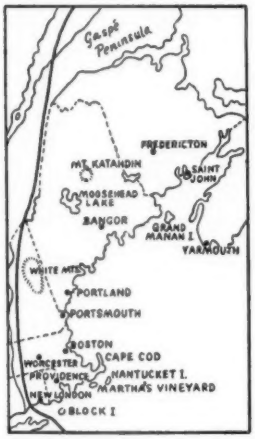
Certain western species are moving eastward. Holboell's grebe, 3 nests on the north shore of Lake Ontario, over 100 summering; double-crested cormorant, rapidly increasing in recent years on the Great Lakes, now reported in Lake Ontario, N. Y., near the St. Lawrence River; ring-billed gull, nesting in Ontario, 40 miles northwest of Buffalo, N. Y., since 1945, now 150 and nests; western meadowlark, east to northwestern Ohio; Brewer's blackbird nesting at Port Arthur, Ont., since 1945; Leconte's and clay-colored sparrows eastward in Ontario, near Buffalo.

Deliberately left to the last is a summary of the rapid build-up in the population of southern herons in recent years. The American egret since 1945 has been steadily increasing as a summer resident from Iowa to Ohio, and this year the first nesting in Minnesota was reported, while it seems about to do so in Wisconsin. The first nesting of the little blue heron was also reported for Iowa. No summer flight of any great magnitude of southern herons was reported in the central states. On the Atlantic seaboard the breeding range of all southern herons has been extending northward for two decades. The most significant news this year comes from central and southern New Jersey, where the populations of breeding herons doubled over last year, with a very successful nesting season to boot. This seems a reasonable explanation of the amazing and unprecedented flood of southern herons which poured north through the Hudson Valley and spread to every part of New England by July 31. For the first time in history snowy egrets in flocks predominated locally near New York City, and many reached Massachusetts. The American egret (in flocks up to 175) predominated inland in New England, and arrived first; about 2 weeks later the little blue, in large numbers, appeared on the coast, and locally outnumbered the American egret. Such large flocks rapidly must have exhausted any local food supply; the birds were so constantly moving about that it is almost hopeless to guess at the total number. These conspicuous birds could not be overlooked by the general public, and were widely reported in the newspapers. The white, young little blues were often thought to be half-grown American egrets, and their appearance led to the belief that the egrets must have nested!

NESTING SEASON

June 1 to July 31, 1948

NORTHEASTERN MARITIME REGION. — Exceptional conditions made the breeding season of great interest. The cold rainy spell in May continued to June 13, producing 10 inches excess of rain making the freshwater marshes resemble the floods of early spring. The month continued very cool, followed by a July that was as nearly normal as possible, without any marked heat waves, the temperature reaching 90° at Boston on pleasingly few occasions. These conditions were more pronounced on outer Cape Cod, where summer did not fairly begin until after July 1, the rains being followed by fog and low temperatures. While the combination of cold and rain did not equal the calamitous seasons of 1832 and 1903, the effects on birdlife were profound.



Migration. — Land birds transients were passing north up to June 15.

Swifts and swallows. — Severe mortality was reported for the chimney swift and purple martin. The only surviving martin colonies in Massachusetts were at Carver, which had built up in recent years to about 150 birds. Only two or three pairs could be found in early June. At least 1500 chimney swifts were found dead at Manchester, N. H., in one day, and it took 2 hours to carry them away in wheelbarrows. Most of the cliff swallow colonies in eastern Massachusetts evaporated.

Marsh birds. — The Sudbury River meadows near Concord, Mass., became ideal for birds. The dense meadow grass, *Calamagrostis canadensis*, rotted down or did not grow, leaving many bare areas of mud, and all the pools were filled. A rich growth of cattail, *Scirpus* and *Polygonum amphibium* arose instead. Bitterns, ducks, rails, and Wilson's snipe nested in exceptional numbers, either trying again, or just suspending operations during the hopeless earlier conditions. Even green-winged teal and pintail were recorded in July. Allen Morgan did particularly fine work in these meadows, sending me full reports, and getting his maximum counts even for marsh birds.

Other breeding birds. — It is impossible to say to what degree the normal breeding season was broken up or to what its inception was postponed, but the evidence from the one-brooded birds is that it

was primarily the latter. The song season lasted 2 weeks later than normal near Boston and 3 weeks later on outer Cape Cod. The cuckoos never appeared at all. The yellow-billed was reduced to a few stray individuals. The black-billed cuckoo, usually a common summer resident, ran as follows: spring migration, only 25% of normal numbers; breeding season — Concord, not a single bird; Wayland, Mass., only 2; Cape Cod, not a single bird. Correlated with the scarcity of cuckoos was the fact that there were practically no tent caterpillars, and no gypsy moths. The bob-white was reduced 90% on Cape Cod by the severe winter. At North Beach which was visited on June 26, there was no sign of breeding of Arctic terns at their usual colony, and the beach was lined with mixed flocks of common and roseate terns, hanging around doing nothing. In my pet 100-acre area at Sears Point, Chatham, Mass., the season's yield of tree swallows was only 14, compared with 44 last year, and the first young did not appear until July 14. The first brood of barn swallows appeared in that area, August 13; the second on the 14th; the season's yield (14) was good. In this same area the first brood of yellow-throats was not awing until the incredible date of August 3, a month late; the yellow warbler was still singing and feeding young on August 3.

In my garden at Cambridge, Mass., a pair of catbirds usually has two broods a season, the first off the nest June 15-30, the second July 15-20; twice in 20 years they have had 3 broods. This year the first brood was fledged July 10, the second August 21; they arrived May 9, singing ceased in late May, and I hardly ever saw one until after June 15, when singing was resumed.

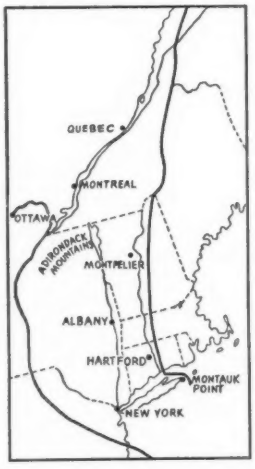
Southern herons. — The historic event of the season was the unprecedented flood of southern herons. American egrets were reported back to late June, but in mid-July, Virginia Armstrong and Stanwood K. Bolton, Jr., of Concord, actually saw a flock of 33 in the Sudbury River meadows. In the next week New England was flooded with them. The American egret predominated inland; up to 100 at Naushon Island (Henry Forbes); up to 100 in the Sudbury Meadows (countless observers); one flock increasing to 189 at Pittsfield, Mass. (Mazzeo); up to 20 at Stage Harbor, Chatham, where the summer tourists are now taken on a boat trip around the harbor at 25 cents apiece to see them!; up to 31 in a day on the coastal marshes of Essex County, Mass., with a flock of 30 in an inland meadow. By the end of July American egrets were recorded at least once from almost every pond in Massachusetts and north to the Canadian border of Vermont, almost to the White Mts., in New Hampshire, and halfway up the Maine coast. I saw American egrets flying over the city of Cambridge, and one alight in a freight yard at Braintree, Mass., and Dr. H. B. Bigelow, resting on his porch at Cohasset, Mass., and looking out over the ocean, saw American egrets fly by at sea on two occasions!

The first snowy egrets were seen on the Sudbury Meadows, July 21 (Griscom), 3 there on the 24th (Cottrells and large party), one remaining to August 7 (Allen Morgan). One snowy egret was reported at Rowley, Essex County, July 28 (Frances Elkins), 2 there later (R. C. Curtis), 1 still present on August 11 (Norman Hill); another at Nelson's Island, August 8 (Curtis, Griscom, Hill). All of the birds were adults, the first with remains of nuptial crest and plumes.

Little blue herons arrived in numbers in mid-July, but very few in the interior, and none so far on the outer Cape. At Sudbury up to 250 were noted on August 7, and Mr. Morgan located 189 in a roost the next day. No really northern records for this species have been reported as yet. A few of the little blues were in fully adult but none in pied plumage.

Far more yellow-crowned night herons than usual were observed coastwise, a few being adults. —Ludlow Griscom, *Museum of Comparative Zoology, Cambridge 38, Mass.*

HUDSON-ST. LAWRENCE REGION. — In the southern part of the region the dominant weather factor was heavy rainfall. Following a very wet May (5.6 inches excess precipitation) the months of June and July added 6.8 inches to the excess. In these three months nearly two feet of rain was recorded by the U. S. Weather Bureau in New York City. Temperatures were about normal. The high rainfall stimulated an early and heavy growth of much ground vegetation which was undoubtedly beneficial to many ground-nesting birds, although high streams and flooded fields washed out other nestings. In the northern part of the region conditions conformed more nearly to the average.



Pelagic birds. — Throughout June the Wilson's petrel was fairly abundant both offshore and in New York Harbor; on one day it was estimated that over 200 were present in the harbor. A few gannets were still to be seen off southern Long Island in late June. These were immature birds. Ten nests of the double-crested cormorant were found on an island in Lake Ontario, near the St. Lawrence River and on the United States side.

Herons. — Throughout the region the most discussed factor in the summer bird life was the tremendous influx of "white herons." Not alone along the coast but in the interior as well these birds have appeared in numbers never before attained in the memory of the oldest bird-watcher. In favorable spots counts in the hundreds were recorded. Although the American egrets seem to have outnumbered both the immature little blue herons and the snowy egrets in most localities, there were areas of the costal marshes where the smaller egret predominated over the other two. In the fresh water ponds and the streams of the interior the little blue was the most numerous. In the northern part of the region the American egret alone was reported. Considering all three white species together, New Jersey reported greater numbers than any other sector of the Hudson-St. Lawrence Region. On the salt marshes of the Atlantic Coast and in parts of Raritan Bay they were abundant; at Overpeck Creek, near Leonia, N. J., 44 were in sight at one time (Downin). At Putney, Vt., 14 American egrets were seen on July 29th (Scott); at West River, near Brattleboro, Vt., 25; at Newport, Vt., on Lake Memphremagog near the Canadian border, 25; in southern Jefferson Co., N. Y., on Lake Ontario, 6 on July 25. Yellow-crowned night herons, both adult and immature, were seen at Jones Beach, L. I., having bred in the vicinity. The Massapequa, L. I., colony which harbored, in years past, both the black-crowned and the yellow-crowned night herons is now deserted. The numbers of breeding American bitterns indicated an increase in this species but the least bittern showed a decrease.

Waterfowl. — The decline in the number of breeding wood ducks, particularly in the southern part of the region, is disheartening. Nesting gadwalls in western Long Island have increased in numbers; this year there were 16 adults and 42 young at Jones Beach (Sedwitz).

Birds of prey. — Turkey vultures showed a slow extension of range northward, broad-winged hawks bred regularly on northern Long Island and there were 2 reports of red-tailed hawks from the eastern end of the Island, one at Wading River, and one at Riverhead (Elliott).

Shorebirds. — Building operations have reduced the area at Hempstead Plains, L. I., where the upland plover formerly bred and there was a corresponding decrease in the numbers of birds there but this is probably merely a matter of dispersion for there were nesting records in places where the birds have not nested before. On southern Long Island the piping plover showed an increase in the number of breeding pairs but a decrease in the number of young. On the Sound shore at Westbrook, Conn., 13 of these plovers with downy to full-grown young were seen, July 18 Bunting). Two Wilson's plovers were observed at Sea Bright, N. J., Aug. 29, (Miss A. C. Hallock).

Gulls and terns. — On Gardner's and Cartwright Islands off eastern Long Island, nearly 3000 herring gulls nested, and 4 pairs of great black-backed gulls nested with them. A few black-backs were present along the coast of northern New Jersey throughout the summer but there is no indication that they bred south of the Long Island location which is the southernmost breeding record in the world for this species. The largest tern colony on Long Island is at Moriches, where 4000 common and 100 least terns were reported. Two pairs of roseate terns also nested in this colony as well as 75 pairs of black skimmers. An extrordinary record was that of a sooty tern seen circling over the Moriches tern colony by Wilcox, a most competent observer with long experience with water birds. Other tern and skimmer colonies on the islands in the bays of eastern Long Island also were satisfactory (Elliott). A census along the Sound shore of western Connecticut shows a breeding population of 700 common and a few roseate terns (Bunting).

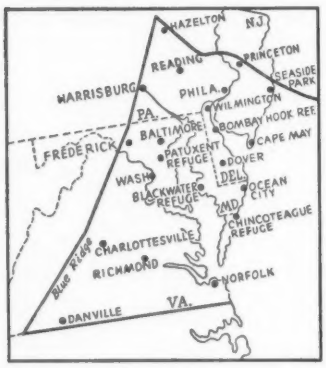
Land birds. — Both yellow-bellied and alder flycatchers were reported breeding on Slide Mountain in the Catskills in late June (Brown). A pair of Acadian flycatchers nested at Peach Lake, Westchester Co., N. Y., (Ryan). These were identified by their notes. The horned larks had a successful breeding season on Long Island (Sedwitz), but the reverse was reported from northern New Jersey. In the southern part of our region where the Carolina wrens had built up a good breeding representation in past years the last winter was rather severe and the birds suffered accordingly. Only a small remnant is now left. The short-billed marsh wren has also decreased in the southern part of the region.

The wood thrush is still pressing northward, a marked increase in the numbers of this thrush was reported as far north in New England as St. Johnsbury, Vt. (Shields). The numbers of hermit thrushes that breed locally on Long Island were satisfactory, and the same is true in southern and western Connecticut. Both grey-cheeked (Bicknell's) and olive-backed thrushes nested on Slide Mountain. The blue-gray gnatcatcher is increasing in numbers and there were several new localities in northern New Jersey where nesting was reported. At Great Swamp near Caldwell, N. J., a pair of prothonotary warblers nested successfully (Wolfarth, Murray). The parula warbler apparently nested again on eastern Long Island. There was an increasing frequency of reports of cerulean warblers in northern New Jersey throughout the summer and a very definite extension of the breeding range of this bird is indicated. On the higher elevations of Slide Mountain the black-poll warbler was found breeding in considerable numbers.

Bobolinks were regarded as very scarce this year in northern New York. The scarlet tanager was

unusually abundant in spring migration and bred throughout the region in much greater numbers than in past years. The cardinal is still pushing eastward on Long Island. The house finches of Long Island are increasing and are now breeding at Babylon, Westbury and Hewlett. Young of the European goldfinch were out of the nest in mid-June at Massapequa. The number of Henslow's and grasshopper sparrows seems to be decreasing but along the coast of Long Island and New Jersey the sharp-tailed and seaside sparrows have increased during the past summer. — CHARLES K. NICHOLS, *American Museum of Natural History, New York 24, N. Y.*

MIDDLE ATLANTIC COAST REGION. — June and July were humid over the whole region, with precipitation above normal and rainy days the rule rather than the exception. June was cool in the southern part, but both June and July were hot in the northern section.



Pelagic birds. — Fred Scott saw 57 Wilson's petrels between Little Creek and Cape Charles, Va., on July 4, and 48 Wilson's and 6 Leach's petrels on July 28.

Grebes. — Several adult pied-billed grebes and one family of downy young were seen at Trenton, N. J., July 18 (McLaughlin).

Herons. — All the herons that frequent the New Jersey area with the exception of the great blue, seem to have had a good breeding season. It may be that because the great blue is less conspicuous than the white herons it is apt to be passed by unnoticed. Snowy egrets were found breeding in four different colonies on the coastal islands of New Jersey south of Tucker's Beach and are now a common sight on the salt marshes of southern New Jersey. W. B. Wright was successful in locating a nest of a Louisiana heron containing young at Stone Harbor, N. J., on June 12. While this bird has been quite frequently noted during the breeding season and has been suspected of breeding, this nest constitutes the first actual breeding record for the state. The same observer found two nests of the yellow-crowned night heron at Avalon, N. J., and on July 25 reported 3 young out of one nest and 2 young of the other nest about ready to leave. Southern herons occurred in usual numbers in Maryland. The great blue heron colony located by Fred R. Scott and Charles E. Stevens in New Kent Co., Va., one mile from the Henrico Co. line, had about 150 nests with young birds on June 12. There were 4 American egrets in the colony but no nest was found. At Henley's Lake, Charlottesville, Va., 14 American bitterns were seen on July 18 (Stevens).

Ducks. — Reports indicate that wood ducks have been somewhat more plentiful in New Jersey than last summer. A family of 7 young was seen at Trenton on July 18 (McLaughlin). Scott and Stevens saw 21 (11 of them young) in an 18-mile trip down the Chickahominy River, Va., on June 12.

Birds of prey. — The black vulture is surprisingly scarce on the Eastern Shore in Virginia and Maryland. On a trip to the Virginia Eastern Shore Clarence Brown did not see one. Alexander Sprunt did not see one during a stay that covered June and half of July in 1940. On the other hand, in some places inland they are regularly seen. Fred Scott saw 2 of these vultures on July 24 at Sugarloaf Mt., 3 miles northeast of Dickerson, Montgomery Co., Md., at the Frederick Co. line. He saw 88 in a flock at Shirley, in Charles City Co., Va., July 27, a very large flock for that date. E. and Q. Kramer found 2 black vultures near Spring City, Chester Co., Pa., June 6. There are few records of this bird in southeastern Pennsylvania.

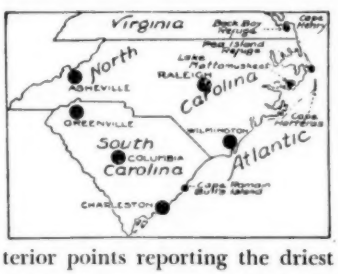
Gulls and terns. — Laughing gulls along the New Jersey coast had a fairly successful season. The Stone Harbor colony that numbered about 2000 birds (est. by Wright) this year contained a good number of young birds able to fly on July 25. One pair of the herring gulls in this colony acted as though they might have young hidden in the grass. Clarence Brown found, on a summer trip to the Virginia islands, that laughing gulls had suffered heavily from high tides. The colony on Wreck Island was completely destroyed, hundreds of young gulls being drowned. On the other hand, he found gull-billed terns greatly increased over former visits. Common and least terns were present in about their usual numbers along the New Jersey coast. However, few young were raised, due to high tides washing out the nests. A pair of roseate terns was located in each of 2 colonies on islands in Barnegat Bay, N. J. Four New Jersey colonies of black skimmers were reported, including about 500 birds — three in Cape May Co. (Wright), and one in Ocean Co. (Brown).

Rails and coots. — Clapper rails were reported as very numerous on the New Jersey marshes this summer in spite of wash-outs and the predation of fish crows. On the Virginia coastal islands they suffered heavily from high tides (Clarence Brown). A brood of very young coots attended by their parents at Bombay Hook, Del., was seen in early July (Brown and others). Fred Scott saw 2 adult coots feeding 4 downy young at Byrd Park, Richmond, Va., June 4, only one of the young being left on June 25; and another pair with a brood of 3 young on July 7.

Shorebirds. — The July migration was characterized as usual by a large number of dowitchers. Willets were quite numerous. Brown and Hetzel reported 6 oyster-catchers, 5 pairs of piping plovers, 3 pairs of spotted sandpipers and 37 dowitchers (all in breeding plumage) at Little Beach Island, N. J., on June 22. Several western sandpipers, some in breeding plumage, were found at North Wildwood, N. J., July 18 (Haines and others). Eight upland plovers were observed at Evesboro, N. J., on July 3 (Coman). The first western sandpiper was noted at Sandy Pt., Md., on July 18. The only other early record for migrating sandpipers in Maryland was a solitary seen by R. E. Stewart at the Patuxent Refuge, Laurel, Md., on July 22.

Land birds. — A female wild turkey with 6 young was seen at Swift Creek, near Richmond, Va., July 19 (Scott). A chuck-will's-widow was seen at Richmond on May 30, and one at Warsaw, Va., on July 11 (Scott). C. E. Montgomery observed a chuck-will's-widow at Cape May Point, N. J., on May 9. Regensburg discovered an olive-sided flycatcher at Colestown, N. J., on June 26, the bird staying for about a week and being seen by several observers. In Albemarle Co., Va., Acadian flycatchers had eggs on May 22 (Lawless) and an eastern kingbird was incubating on May 21 (Stevens). Lawless found a horned lark's nest with 4 eggs, Apr. 4, at Charlottesville, Va. This bird is now breeding through most of the Piedmont in Virginia. Stevens found a pair of fish crows, a species which, is a scarce summer resident as far inland as Albemarle, Co., Va., but for which there is no breeding evidence, acting as if nesting at Hatton, Va., on James River. Although disturbed by a Cooper's hawk, a cedar waxwing was noted building a nest, May 28, Albemarle Co., Va. (Lawless). Northern nesting records for mockingbirds were reported at Woodbury, N. J., 4 eggs on June 13 (Middleton); and at Collingswood, N. J., 3 young out of the nest on July 10 (McLaughlin). Also far north, Mrs. Buckingham, park naturalist, reported a pair of blue-gray gnatcatchers nesting at Washington Crossing Park, N. J., and Bloor found a prothonotary warbler's nest at Trenton, N. J., on July 5. The latter nest was placed in a hollow near the top of a dead, three-foot stump facing the water. It contained 3 eggs. This, we believe, is the first positive breeding record for the prothonotary warbler in south Jersey. During the week-end of July 4, J. T. McNeill, Jr., visited Treasure Island in the Delaware River, 3 miles below Frenchtown, N. J., to follow up a report that cerulean warblers had been seen there and discovered 3 singing males (an unusual record so far east). At Washington Crossing Park, further down the river, Mrs. Buckingham reported a nesting pair of cerulean warblers. These records might indicate a sporadic invasion of these birds. No previous records of cerulean warblers in this area have come to our attention. Stevens found the cerulean warbler this summer as far east of the Blue Ridge as the eastern edge of Albemarle Co., Va. A pair was feeding young on the wing in that county on June 25. He found black-throated green warblers at Peter's Mt. in the eastern edge of Ablemarle, at elevations as low as 1100 feet and in deciduous woods. On June 26, Chandler Robbins found a male black-throated green warbler at Cabin John, Md., at the same place where one was seen on July 20 last year. Scott and Stevens found 3 scarlet tanagers on the Chickahominy River on June 12. This bird has an odd breeding distribution in Virginia, occurring only above 1500 feet in the Shenandoah Valley and scarce in the Piedmont. It is found locally at low elevations around Richmond. The blue grosbeak seems to be extending its range northward. More of them than usual were seen in Maryland, north to Montgomery and Howard and northern Prince Georges Counties. A pair was seen by McLaughlin at Titusville, N. J., July 5; and an adult male and a young male, both of which were singing, were found at Haddonfield, N. J., on July 8 (Erickson). The adult soon disappeared but the juvenile continued to sing in the same area for the rest of the month. Erikson also found a rose-breasted grosbeak at the same point on July 20, an unusual date for this bird. Stevens found young blue grosbeaks out of the nest on July 20, in Albemarle Co., Va. No dickcissels were reported in Maryland this season. Scott found one singing at Curle's Neck, Richmond, Va., June 30. A vesper sparrow, singing, east of Richmond, June 30 (Scott), is unusual. Several colonies of Henslow's sparrows, about 16 pairs, one immature bird, were located in the eastern part of Albemarle Co., Va., in July (Stevens). He also found the pine-woods (Bachman's) sparrow singing at Stony Point, July 20, and at Woodbridge, July 27, both first summer records for Albemarle, Co. A curiously marked partially albino purple grackle was found by McLaughlin and others at Cape May Point, N. J., in late July. The black and white marking so closely resembled that of a magpie that considerable difficulty was experienced in identifying the bird. — JULIAN K. POTTER, *437 Park Avenue, Collingswood, N. J., and* J. J. MURRAY, *6 White St., Lexington, Va.*

CAROLINA REGION. — This report is devoted to breeding activity of both spring and summer seasons. Pertinent weather data for the spring season were reported in the previous issue. Temperatures were slightly above normal and rainfall in June and July was uniformly low, with some interior points reporting the driest July since 1887.



Water and marsh birds. — At Cape Romain, S. C., brown pelican nesting activity was noted on Apr. 20, with colony later reaching about 500 pairs. Large royal tern colonies here aggregated possibly 10,000 pairs, but high tides of June 19 and July 8-9 destroyed thousands of eggs and young of pelicans, royal and least terns, skimmers, etc. Near Wilmington, N. C., 45 nests of least terns noted May 29 were later destroyed (by boat-tailed grackles?). Eggs and young of about 40 pairs of laughing gulls and 20 pairs of gull-billed terns were noted in Bulls Bay, S. C., on June 27. At Lake Ellis, Craven Co., N. C., double-crested cormorants had 19 active nests on June 10. At Charleston, green heron eggs were first noted on Apr. 2, and at Mt. Olive, N. C., yellow-crowned night herons were building on Apr. 4, with young hatching in May. An American bittern heard at Lake Ellis on June 10 may indicate breeding there (only once before reported for N. C.). The hitherto very large white ibis colony at Mayrant's, near Charleston, dwindled to less than 250 pairs, the majority of the birds probably moved north near the Santee River, where about 1000 nests were estimated at Blake's Reserve on June 10. In late June, 15 adult and 15 immature white ibises and 9 glossy ibises noted on Masonboro Sound, N. C. (Emmart, McAllister, and Taylor), indicate continued breeding in this most northerly known breeding region. There were two instances of black ducks breeding (for the first time in S. C.) near Myrtle Beach and McClellanville. These are perhaps traceable to decoy stock. Near Charleston, wood ducks had broods out in late April.

Hawks and owls. — Red-shouldered hawks were rebuilding an old nest near Wilmington, Apr. 5 (Appleberry), and had eggs near Charlotte, Apr. 16 (Layton). At Charleston an osprey was shepherding four young well awing on July 25. Near Charleston, E. M. Burton saw an osprey power-dive at a water-turkey flying 30 ft. above water. Just before the hawk hit, the anhinga angled sharply, and, at increased speed, literally flew down into and under the water. At Charlotte a barn owl nest held three young (3 or 4 weeks old) on Apr. 11 (Moon, L., Chamberlain).

Rails and shorebirds. — At Charleston there was an early record of a clapper rail with 3 or 4 downy young on Apr. 14 (E.B.C.Jr.), contrasting with two nests of eggs (ten ft. apart) near Wilmington, June 8 (McAllister). Oyster-catchers had eggs near Wilmington on May 2, and at Romain, S. C., on June 27. Willets had eggs at Wrightville Beach, N. C., Apr. 24, and Charleston, May 14.

Doves. — Near Charleston, mourning doves had eggs, Apr. 14, and ground doves, May 9 and June 2 (Cutts).

Nighthawks through swallows. — Nighthawk eggs were reported on May 25 at Charleston and the next day at Wilmington. Also at Charleston, chimney swifts had eggs on May 25, and flickers on May 23. At Columbia, S. C., almost two months elapsed between the time a red-bellied woodpecker was hidden from sight while excavating nest hole (March 22) until young were fledged on May 19 and 20 (Mrs. Charles). Crested flycatchers had full sets at Charleston, May 16 and June 25, and at Charlotte, June 28. Near Wilmington, barn swallows were skimming feathers off a duck pond and taking them into a nearby barn, June 13 (Appleberry), while at Cape Romain two nests held young on June 29 (Rucker and Mills), constituting the second South Carolina breeding record. Purple martins were resting at Eastover, S. C., May 16 (Faver). This species left gourd nests at Aynor, Horry Co., S. C., first week in July (Dawsey), and July 1 were feeding young in a neon Amoco sign in Wilmington (A.)

Chickadees through shrikes. — Carolina chickadees were nesting at Eastover, Apr. 10, and young hatched at Wilmington, Apr. 26, leaving nest May 5. At same place brown-headed nuthatches were feeding young in nest, Apr. 26. A house wren was noted carrying food and young were heard begging nearby near Wilmington, July 27 (A. Baker & Mebane). This record indicates continued expansion of the breeding range of a bird not known to breed in North Carolina thirty-odd years ago. At Charleston, long-billed (Worthington's) marsh wrens had full complements of eggs on May 4, July 1 and July 18 (not the same pair); while mockingbirds had full sets on Apr. 17, May 9, and June 17. At Charleston in late May, and Charlotte on July 27, young stub-tailed mockingbirds, less than two days out of nests, were seen unmistakably to put on the "raised-wing" performance we have watched so often in adults (B.R.C. and E.B.C.). Surely this is an inherited pattern. Catbirds were building at Columbia, Apr. 22, and had eggs at Wilmington, June 2. Brown thrashers had first eggs at Columbia, Apr. 9, and full sets at Charleston, Apr. 18. Blue-gray gnatcatchers were incubating, Apr. 19, at Charleston and Apr. 30, at Chapel Hill. At Charleston, loggerhead shrikes had eggs on Apr. 18; and in the same region Alfred Halsey reported a loggerhead shrike taking *eggs* and young of red-wings.

Vireos and warblers. — At Wilmington, Mrs. C. Appleberry kept a young yellow-throated vireo ten days, feeding it 75-100 army worms daily, and releasing it when the co-incident worm invasion ceased, since the bird "would not eat anything else." Red-eyed vireos had eggs at Charleston, May 29, and young (second brood) in nest, July 8, at Aynor, S. C. At Lake Ellis, N. C., a Swainson's warbler, noted June 10 (Holmes), was probably a breeding bird. Parula warblers were building on Bull's Island, S. C., Apr. 6 (Walsh), and young were being fed near Charleston, May 5. Near Raleigh, oven-birds had eggs on May 1, and young left nest on May 15 (Johnson and Overing).

Blackbirds and sparrows. — Meadowlarks had young in a nest near Wilmington, May 25 (Emmart). Red-wings had eggs at Charleston, May 2,

and second broods awing at Wilmington, July 31. Orchard orioles building at Columbia, June 10, had young awing, July 8, while another nest (interwoven in long-leaf pine needles) fledged young on June 3 (Charles); also a very young bird of this species was noted at Wilmington, June 2 (A.). Boat-tailed grackle eggs were found at Charleston, Apr. 18, and at Wrightville Beach, Apr. 24. Young purple grackles were awing at Columbia, Apr. 21, and at Wilmington on Apr. 26. A male yellow-headed blackbird seen, Aug. 4, near Wilmington (Appleberry, Mebane and Baker) and a pair seen in 1945 in same area (Mr. and Mrs. Appleberry) constitute the only North Carolina records we know of for this species. At Sumter, S. C., blue grosbeaks had young awing on July 18 (Mrs. Siddall). Painted buntings had eggs at Charleston, May 29, and young awing at Wilmington, June 10. At Charleston eastern (white-eyed) towhees had eggs, May 4. Near Wilmington, young pine woods (Bachman's) sparrows were running (not flying), June 3 (A. and M.). Near Charlotte, a Henslow's sparrow nest held four young, Apr. 18, and week-old young of a second brood were noted on July 17 (B.R.C.). This record extends the known breeding range of this species southward by some forty miles. — E. B. CHAMBERLAIN, *Charleston Museum, Charleston, S. C., and* B. R. CHAMBERLAIN, *Charlotte, N. C.*

PENSACOLA (FLA.) REGION. — Temperatures after the late frost of March 29 through July were consistently high but with no extremes until July 24, when 98° was recorded at the Pensacola Weather Bureau. Rainfall was excessive in March (16½ in.), above normal in April and May, normal in June, and again excessive in July (15½ in.). A long dry spell from April 14 to May 26 favored the successful nesting of small birds and ground nesters.

Normal March nesting activities of mourning dove, loggerhead shrike and brown thrasher seem to have been deterred by the almost daily rains of the first half of the month, for no nests of these species were found until after the frost of March 29. Widely fluctuating water levels in the river valley swamps undoubtedly affected adversely the nesting of Swainson's, Kentucky and hooded warblers, but none of these species is common in this region.

Grebes to woodpeckers. — A nest and 5 eggs of the pied-billed grebe, a rare breeder in this region, were found in a temporary pond in Pensacola on May 1. Receding waters exposed the nest to access from shore and it was destroyed. An adult grebe with full-grown young were seen in a pine woods pond on June 20. At Fort Morgan, Ala., at the entrance of Mobile Bay, young least bitterns just out of the nest were seen on June 26. Downy young bob-whites on June 13 were later than normal. Willets, long suspected of nesting in this region, were seen with half-grown young on June 26 at Fort Morgan, an area that I had never before visited in the nesting season. The first nests of the least tern were found on May 23, nesting was at its height on June 9, and 2 nests still containing eggs were seen on June 27. On that date, young of all ages from the downy stage to those in first flight were abundant. A mourning dove was seen incubating on June 6 — certainly a second and perhaps a third nesting of the season — and another was gathering nesting material on June 19. At this writing (Aug. 13), doves are still cooing, probably preparatory to another nesting. Barred owls seem to nest later in this region than in many other parts of the South, as young not long out of the nest were reported on June 7 (Mrs. J. F. Wernicke). A pair of red-bellied woodpeckers was seen feeding well-grown young in the nest on May 28, while another pair was still incubating (or brooding) on June 20. The red-headed woodpecker, still common in rural areas, has all but disappeared as a nesting species in the city of Pensacola since the advent of the starling as a breeder in 1932.

Flycatchers to swallows. — Eastern kingbirds were still feeding a late brood of young out of the nest on Aug. 8. A pair of gray kingbirds, a species that reaches the western limit of its breeding range at Pensacola, started an early nest on May 2 but did not complete it. A later successful nest in the same tree contained well-grown young on June 13, and another brood of the same age was found the same day. An Acadian flycatcher was reported completing a nest on May 30 (Mrs. Wernicke); one of the birds was seen incubating closely on June 20; and the young left the nest on July 3. A single barn swallow was seen near the nesting site of 1946 on June 9 of this year, but no evidence of nesting could be discovered; a small group that may have been a brood just on the wing was found at the Naval Air Station on July 18; the barn swallow colony discovered in 1940 at Fort Morgan by T. D. Burleigh (Auk, 58: 261-262, 1941) was found to be in thriving condition on June 26, with 4 occupied nests and enough young birds on the wing to account for several broods. Purple martins had a successful season and reared more young than usual; a late brood was still in the nest on June 20.

Jays to thrushes. — Blue jays were first seen carrying nesting material on April 7; another pair was incubating on April 10; a very late brood was still in the nest on May 18; and another late brood was seen on May 22 just after it had left the

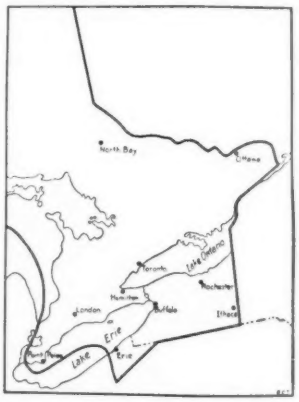
nest. Carolina chickadees were seen feeding young in the nest on April 16 (Mrs. Wernicke). A very late brood of tufted titmice was seen in first flight on July 4. The last of 5 eggs in a nest of the Carolina wren was laid on April 15. (Mrs. Wernicke); another pair had a brood just on the wing on May 8; and a late set of 5 eggs was found on June 20 in an abandoned concrete mixer. The first mockingbird nest of the season was being completed on April 10; and a newly hatched brood was seen in another nest on May 22. Brown thrashers got away to a late start, and the first nesting pairs were seen incubating on April 2 and 14. For the second successive season, a pair of robins nested in this region. They were first seen incubating on April 12, but the nest was later destroyed. On June 13, another nest was found in the same neighborhood (L. E. Goodnight) and was watched by several observers until the young left it late in the month. The young birds were seen several times during July and early August. A late nest of bluebirds contained well-grown young on June 20 — probably a third brood.

Gnatcatchers to sparrows. — Invariably, blue-gray gnatcatchers can be found building during the second week of April, this year on April 11. The first nest found was completed on April 18 and a bird was seen incubating in it on April 25. Young from another nest were on the wing on May 2. The only prothonotary warbler nest I have ever seen that was not actually over water was in the top of a fence post on high land overlooking the river swamp. It contained well-grown young on May 30 that were being fed by both parents. A very early nest of the parula warbler was reported on April 16 (Mrs. Wernicke), when a bird was seen incubating. A late brood of pine warblers was not long out of the nest on June 20. Swainson's, Kentucky and hooded warblers, heard in full song in the river swamp on June 6, were probably nesting. Eggs of the red-winged blackbird in process of hatching on May 2 were a little earlier than normal for this species. A late brood of orchard orioles was just out of the nest on June 9 (Mrs. Wernicke). Nests containing large young of the purple (Florida) grackle were seen on May 2 and 5 (very early); a normal date was May 18 for young just leaving the nest; a very late brood was reported as being fed out of the nest on June 11 (G. W. Weston). The first cardinal nest of the season contained 1 egg on April 4 (very early); 3 eggs were being incubated on April 11; and the young hatched on April 18. Another unsuccessful effort was made this year to find a nest of the chipping sparrow, a very rare breeder in Florida, when a singing male was seen on June 6 near a suspected nesting site of several years' standing.

Non-breeders. — Herring and ring-billed gulls, always in immature plumage, were seen several times during June and July. Black terns were abundant during both months, the black birds in full nuptial plumage being outnumbered 100 to 1 by the gray birds. On June 26, on the Alabama coast near Fort Morgan, 3 lesser yellow-legs were seen — the only known June occurrence in this region. — FRANCIS M. WESTON, *2006 E. Jordan St., Pensacola, Fla.*

ONTARIO-WESTERN NEW YORK REGION.

Grebes.—One of the most unexpected changes that has taken place in the distribution of birds in this region during the past decade has been the summering of flocks of several hundred Holboell's grebes at 3 points along the north shore of Lake Ontario — Burlington, Lorne Park and Port Britain, Ontario. A few pairs have nested at Burlington (since 1942) and one pair at Lorne Park in 1946. This season, on July 3, 101 Holboell's grebes were counted at these two places, and two nests found at the former, by H. D. Mitchell, W. Brockner, W. Vaughan, B. Nathan and others. Westward, the closest breeding-place is Port Arthur, on Lake Superior.



Cormorants. — The increase of double-crested cormorants in the Great Lakes region, during the past quarter century, has been a matter of interest to ornithologists and net-fishermen. Prior to 1936, all the breeding-stations in this area were north and west of Georgian Bay. In 1936, they first nested in Georgian Bay; in 1938, in Lake Ontario; in 1939, in Lake Erie, and in 1945, in the upper St. Lawrence River. This season, a second colony became established in Lake Ontario — 30 or 40 nests being found in July on Gull Light, a mile offshore between Cobourg and Port Hope (R. W. Johnson). The sole Lake Erie colony (7 nests when found in 1939 by Earl Core) this season harbored 10 pairs when visited in June by Keith Reynolds .

Vultures. — The occupation of Ontario by turkey vultures continues slowly. Up to 1928, the known nesting-places were all in the southwestern counties of Essex, Kent, Lambton and Middlesex. Subsequent breeding records, beyond that area, have come from Bruce (1928), Grey (1932), Elgin (1935), Norfolk (1938), Halton (1943) and Peel (1946) Counties. Another population has occupied the Lake of the Woods area since 1919. This season, one seen, May 22, at Sault Ste. Marie (Fred War-

burton) and 12 seen at Sydney Lake, near Sioux Lookout, in July (C. L. Perrie, A. deVos and A. Cringan), although not breeding records, mark interesting extensions.

Gulls. — News from most southerly colony of ring-billed gulls, on Mohawk or Gull Island, off Port Maitland, Ont. (40 miles west of Buffalo, N.Y.), is encouraging. Discovered by Stanley Franklin in 1945 (60 nests), the colony had 45 nests in 1946 (B. D. Mitchell, J. Savage and W. Brockner) and up to 150 nests in 1947 (Donald J. Gamble). This year, 150 to 200 nests were present when Mitchell visited the island on June 25. This is the only reported nesting-place for the ring-billed gull on Lake Erie.

Vireos. — Two records of the Philadelphia vireo, this season, mark the southern edge of the breeding range of this species in Ontario. Douglas E. Scovell saw one in early July at Moore Lake, in Haliburton County, and on July 25, A. A. Outram saw one feeding a juvenile, out of a nest, on an island in the Severn River, in Orillia Township, Simcoe County.

Warblers. — Nesting-records for the golden-winged warbler in Ontario have all come from the counties of Middlesex, Norfolk and York. This season, Robert Elstone discovered a nest at Ancaster, Wentworth County, in June. The only known colony of prairie warblers in Ontario away from the shores of Lake Erie, Lake Huron and Georgian Bay, is located at Cross Lake, Frontenac County (discovered in 1933 by Robert V. Lindsay). On June 19 and 20, of this season, Robert Trowern and Mr. Lindsay estimated that 50 pairs were present along the 3 miles of shoreline occupied by the birds.

Blackbirds. — The only nesting-site for Brewer's blackbird recorded in Ontario was established in 1945 at Port Arthur (L. S. Dear). This year, there were 5 nests in the colony when it was visited on June 2 and 5 by Colonel Dear and Dr. A. E. Allin.

Finches. — Prior to this season, the blue grosbeak has appeared in Ontario on only 8 occasions, at places along the southern edge of the province. This year, a mild invasion of the species occurred and there were 5 additional reports in this area. A male was seen on May 24 at Uxbridge (Leonard Carter), a pair between June 8 and 20 at Islington (G. H. Corsan and T. Swift), a male in early July at Orillia (Norman Post), a female on July 10 at Streetsville (Margaret Mitchell), and a male at East Aurora, N.Y., on May 12 (Mrs. Bartram and Mrs. Searles). There is still no evidence of breeding in Canada.

Three interesting records of *Fringillidae* came to light as a result of the visit of 12 members of the Buffalo Ornithological Society to Simco County, Ont., on July 4. At Bradford, they saw 15 singing Leconte's sparrows and 1 Lincoln's sparrow, at Midhurst, 2 Lincoln's sparrows; and at Port Severn, 2 clay-colored sparrows (H. D. Mitchell, W. Brockner, W. Vaughan, B. Nathan, and others). On the subject of clay-colored sparrows, it might be pointed out that the statement to the effect that one was seen at Toronto, Apr. 6 (last *Field Notes*) should have read: "One was collected at Vivian, near Toronto, on May 28, by C. H. D. Clark." — James L. Baillie, Jr., *Royal Ontario Museum of Zoology, 100 Queen's Park, Toronto, Ontario, Canada.*

APPALACHIAN REGION. — Spring, which came early to the unglaciated Appalachian Region, turned cold and rainy toward the end of May. It was followed by an unusually cool and wet summer, with relatively liltte sunlight. At Morgantown, W. Va., rain fell on 21 days during June, 16 during July, and August started off with a phenomenal rainfall of *slightly over five inches* in one six-hour period. At one station of 3700 feet elevation in the West Virginia mountains the thermometer had not recorded any summer temperature as high as 80 degrees at the time of this report.

Despite seemingly adverse conditions birds seem, on the whole, to have had a successful breeding season. In part, this may be due to the presence of swarms of periodical cicadas. These insects, of course, furnished an abundant food supply during the nesting season and also contributed to reduced predator pressures.

During June and early July, a group of some 40 bird students made intensive population studies in the high mountains of Pocahontas and Randolph Counties, W. Va. Areas censused for breeding birds included tracts of young red spruce, mature spruce, young hardwoods, and mature hardwoods. They included the areas studied by Aldrich and Stewart in 1947. Results (to be reported in detail in *Audubon Field Notes,* November 1948) showed populations substantially higher in 1948 than those reported for 1947.

Herons. — There was an unusually heavy northward movement of waders during mid-summer. Murray reported American egrets common in the Lexington, Va., region. Carpenter found American egrets and great blue herons in the vicinity of Bridgewater, Va. On July 10, I found an immature black-crowned night heron and a little blue heron in adult plumage (unusual in West Virginia) along Anthony's Creek in Greenbrier County. Seven American egrets, one snowy egret, three great blue herons, and three immature black-crowned night herons were found by Buchanan on August 5 at Tappan Lake, Harrison County, Ohio.

Waterfowl. — Wood ducks, which are rapidly reclaiming all their former range in the Appalachian region, had an unusually successful breeding season. Near Bridgewater, Va., Carpenter observed six broods in June. They were common around Lexington (Murray), and were reported in good numbers in West Virginia. Murray found an unusual number of summer cripples among ducks at Cameron's Pond, Rockbridge County, Va. These included mallard, June 26; black duck, July 26; blue-winged teal (pair), June 26; baldpate, May 20; scaup (sp., female) throughout the summer; ring-necked duck, through May; and hooded merganser, July 26.

As mentioned in my last report, the beaver dams are having an increasingly heavy influence on resident waterfowl in the West Virginia mountains. Swank, who is making a study of beaver management problems, states that almost every pond has had its breeding pair of black ducks or mallards in 1948. Several nests have been found.

Raptors. — At Leetown, W. Va., Gutsell has continued to find black vultures throughout the summer. Near Lexington, Bobby Paxton found the nest of a red-shouldered hawk, scarce in this area. Broad-winged hawks, which suffered heavily from so-called "vermin" campaigns in past years, were more common in West Virginia this summer.

Gallinaceous birds. — Ruffed grouse, which were at low ebb in 1945, have been steadily building back, and apparently had a fairly good nesting season in 1948, despite wet weather. Many broods of young have been reported, although some are of small size. DeGarmo reported that wild turkeys in West Virginia had an unusually good winter carry-over, and were more abundant than in most past years.

Shorebirds. — Buchanan found a Wilson's snipe in Carroll County, Ohio, on June 6, under conditions which suggested that it might be nesting. There is no record of the breeding of this species in unglaciated Ohio. At Lexington, Va., solitary sandpipers returned on July 16, leaving a gap of only 19 days between last presumed northward migration (June 27) and first southward migration. Near Montezuma, Va., Carpenter found upland plovers in May and July. Bailey closely observed a stilt sandpiper (rare in West Virginia) in Pocahontas County, on May 7.

Woodpeckers. — Buchanan commented on the slow but steady increase in the numbers of pileated woodpeckers in Carroll, Jefferson, and Harrison Counties, Ohio, in recent years. This same condition obtained in West Virginia, particularly in the counties bordering the Ohio River. Buchanan also reported a nest of red-bellied woodpeckers in a willow stub only nine feet from the ground. As mature timber, particularly oak and chestnut, becomes scarce in the Appalachian region, red-headed woodpeckers become local, or disappear altogether.

Flycatchers. — Many observers commented on the unusual abundance of eastern kingbirds in 1948. Alder flycatchers, which once seemed to be restricted to mountain areas of the Appalachian Region, are now breeding regularly at lowland points. In 1948, Buchanan found them for the first time in Jefferson Co., Ohio, near Amsterdam.

Wrens. — Bewick's wrens are steadily reoccupying territory in Appalachian valleys from which they disappeared when house wrens invaded some 30 years ago. Apparently these two are arriving at some satisfactory *modus vivendi*. Buchanan, from Ohio, and Carpenter, from Virginia, comment on recent increases in numbers of these birds.

Wood warblers. — Swainson's warblers nested in good numbers in West Virginia. We have now recorded them from at least ten counties. This year Green found them for the first time in Cabell County, adjoining the Ohio River. They occupy an amazing variety of situations, from mountain thickets of hemlock and rhododendron to open lowland woods.

On May 25, Murray found a nest of the cerulean warbler 70 feet up in a black walnut tree along the Maury River, in Rockbridge County, Va. Yellow-throated warblers (race undetermined) nested successfully near Charleston, W. Va. No definite 1948 reports of Sutton's warbler have come to me.

Tanagers. — The northward movement of summer tanagers continues. Haverfield found this species for the first time at Cadiz, Ohio, this year. In many West Virginia regions where once only scarlet tanagers were found, summer tanagers are now much the more common of the two.

Finches. — Buchanan secured the first summer records of rose-breasted grosbeaks in Carroll and Jefferson Counties, Ohio, in 1948. Murray reported the northward and westward spread of blue grosbeaks in Virginia, and, in July, found the first recorded nest of this species from west of the Blue Ridge in that state.

I have had no 1948 reports of pine siskins or red crossbills in the Appalachian Region. Carpenter speaks of grasshopper sparrows as being unusually abundant in Virginia. Pine-woods (Bachman's) sparrows were found at 2200 feet elevation in Greenbrier County, W. Va., and at 3000 feet on the summit of Potts Mountain, in Craig County, Va. This species now occurs locally in almost every section of West Virginia. Buchanan stated that swamp sparrows bred abundantly in Still Fork Creek valley, in Ohio.

There is continuing evidence of many range extensions and population shifts among birds in the Appalachian Region. Henslow's and Savannah sparrows are found farther south each year. White-eyed vireos, summer tanagers, pine-woods (Bachman's) sparrows, and hooded, and worm-eating warblers are nesting farther north, or at greater elevations. — MAURICE BROOKS, *West Virginia University, Morgantown, W. Va.*

CENTRAL NORTHERN REGION. — The nesting season has been characterized by extreme dryness. The Minneapolis, Minn., Weather Bureau reported a total deficiency in precipitation of — 7.74 inches from Jan. 1 to July 31, 1948. The temperature was average with no extremes in May or June, but this was broken during the first two weeks of July, when daily mean temperatures went as high as 16° above average. This dryness retarded plant growth, which affected nesting, and seemed to delay it by two weeks, a situation similar to last year. Breeding ranges of the American egret, red-shouldered hawk and yellow-breasted chat are undergoing a northward extension. Upland game birds probably fared well, because weather conditions were favorable for their broods, but many sloughs had dried up at the time the ducks hatched and broods of ducks were found wandering in strange places. This situation was probably localized though, because many observers felt that the ducks had done quite well this summer. Rev. Samuel Robbins wrote from Wisconsin, " . . . the dryness has been painfully apparent to everyone. But I have not heard of this having a serious effect on any nesting birds."

Grebes and cormorants. — Whitney Eastman wrote that he was distressed to see only one western grebe at Lake Traverse, Minn., whereas two years ago he had seen a number of matched pairs with young. A scarcity of cormorants was indicated when Eastman saw only a few, whereas two years ago he saw thousands at Lake Traverse. A pair of western grebes was seen at Lake Bemidji in north central Minnesota during June and July (Russell Soulen). This is another eastward extension of this species.

Herons. — The American egret seems to be moving its breeding range northward. One was seen along the marshes on the east shore of the Mississippi River in Buffalo County, Wis., on June 5 (Robbins). Individuals were reported in June and July from Burnett County, Wis. (Stone), and from Horicon Marsh in Dodge County (Burrow-Truax). A nest of the American egret was reported from Pelican Lake, Grant Co., Minn. W. J. Breckenridge investigated this report and found a nest with three young in it and one young about fifteen feet away. This is the first record of the nesting of this species in Minnesota, and certainly represents an extension northward of its breeding range.

Ducks. — Observers felt that this year's hatch was more successful than last year's. The nesting dates were later than average, which was also true last year. A mallard's nest containing one egg was found on May 15, near Minneapolis (A. C. Rosenwinkel). Broods of mallards were hatched about the first week of June (Harrell, Hayward and Warner). Breckenridge reported one of two wood ducks nests hatched on May 31 (May 29, 1947, and May 18, 1946). A pair of lesser scaup was seen in the Cedar Avenue sloughs, just south of Minneapolis on June 12 (Rosenwinkel). In Burnett County, Wis., ten downy young ring-necked ducks were observed on June 8 (Stone).

Hawks and owls. — Members of the Minnesota Bird Club found a Cooper's hawk nest with four eggs at Frontenac, Minn., on May 16. A broad-winged hawk nest, containing one egg was found in Ramsey County, Minn., May 14 (Ruth Self). At Willow River, Wis., there was a nest of the red-shouldered hawk with two newly hatched young on May 18 (Rosenwinkel), and in Anoka County, Minn., another nest with four quarter-grown young on May 23 (Breckenridge). The red-shouldered hawk seems to be gradually extending its range northward in this region.

Gulls and terns. — The Franklin's gull colony of Heron Lake, Minn., which is always of interest to bird students, was visited by Byron Harrell and Bruce Hayward. This year there was a more luxuriant growth of vegetation than last year. The colony near Dalziell's Point had moved across the bay. On June 3, 38 of these nests contained the following: 4 nests had 1 egg each, 8 nests had 2 eggs each, 22 nests had 3 eggs each, 2 nests had 1 egg and 1 young each and 2 nests had 2 eggs and 2 young each. The nests ranged from 6 to 16 feet apart. Eastman found fewer than the usual number of Franklin's gulls in Minnesota. The Forster's tern, found commonly on the prairie, again nested in the eastward extension of the prairie into the Minneapolis-St. Paul region. On June 12, there were nine Forster's terns sitting on nests in the Cedar Avenue sloughs just south of Minneapolis.

Goatsuckers. — A whip-poor-will nest with two eggs which hatched on June 20, was found in Anoka County, Minn. (Gunderson, Harrell).

Perching birds. — Ravens remained throughout the summer in northern Taylor County, Wis. (Robbins), and Lake-of-the-Woods County, Minn. (Heffelfinger). In Oconto County, Wis., three nests of the winter wren were found in late May and early June (Richter). A veery nest with two eggs and one cowbird egg was found on June 14 in Anoka County, Minn. (Gunderson). Members of the staff of the Minnesota Museum of Natural History, while collecting in southeastern Minnesota, found blue-winged warblers quite common along the headwaters of the Root River in Fillmore County. A nest, containing four young blue-winged warblers, was found on the ground in a clump of *Solidago* on June 18. The Nashville warbler, associ-

ated with the coniferous forest in Minnesota, is still to be found in the southern remnants of tamarack and spruce bogs. Two nests of this species were found about 70 feet apart, one containing four eggs, on June 11 and another, also with four eggs, on June 14, in Anoka County, Minn. (Gunderson). Although probably not nesting, it is of interest to note a parula warbler and a bay-breasted warbler seen in Milwaukee, Wis., on June 6 (Mrs. Balsom). An oven-bird nest with two eggs was found in northern Anoka County, Minn., on May 31 (Gunderson). The yellow-breasted chat has become a common bird along the Mississippi River bottoms in southeastern Minnesota, and this year several young and many adults were reported by various observers. It seems to have been a good year for dickcissels in southern Wisconsin. They were found generally distributed over the western and southwestern counties of Wisconsin on June 5 (Robbins). Although frequently seen in southern Minnesota, this could not be considered a "dickcissel year;" and in central Minnesota, no dickcissels were seen whereas they were recorded in quite large numbers in 1946 (Eastman). Every summer Brother Pius of St. Paul carries on extensive work with nesting goldfinches near his home. This year he has found 29 nests during the latter part of July and the first week of August. The time of nesting of the goldfinches this year was the same as last, which was about two weeks late, due to delayed growth of plants for nest sites and nest material. About one-half of the area has been destroyed by building activities. A swamp sparrow's nest with three eggs and one cowbird egg was found in Anoka County, Minn., May 29 (Gunderson). A song sparrow nest with eggs was found on May 2 (Rosenwinkel). HARVEY L. GUNDERSON, *Minnesota Museum of Natural History, University of Minnesota, Minneapolis, Minn.*

MIDDLEWESTERN PRAIRIE REGION.—The drought of late spring was broken early in June, and the summer season was pleasantly normal, without extremes of temperature or precipitation. Except in a few localities which did not get their share of the rainfall, the crops and other vegetation flourished, and nesting conditions seemed excellent.

In general, the remarkable feature of the season ornithologically was the lack of any spectacular events.

Herons.—A major phenomenon of our time is the increase of American egrets and their spread northward as nesting birds. Today their numbers and nesting range in this region may perhaps be greater than in the days before plume hunting, although exact historical information on this point is hard to get. The increase is still continuing, as the following observations show. This year at Davenport, Iowa, Hodges found American egrets nesting on Mississippi River islands of Scott, Muscatine, and Louisa Counties, where they had not been found before. Within 50 miles of Quincy, Ill., on the Mississippi, Musselman found four new or greatly enlarged colonies, the largest with 150 nests. On West Sister Island in Lake Erie near Toledo, American egrets first appeared in breeding season in 1945, 6 nests were found in 1946, and the number of nests grew to 20 in 1947 and 30 in 1948.

At the time this report was being prepared, information about the post-breeding visitation of southern herons was not yet complete. However, preliminary reports indicated that the late summer flight was good, although not unusually so except near Canton in northeastern Ohio (Ball), and not anything like the amazing flight described by newspapers in the northern states east of the Alleghenies. In the marshes of Lake Erie, the number of egrets was about normal and, at Itasca near Chicago, Freeman counted 70 egrets at an evening roost in late July where 5 were seen last year and 135 the previous year.

Near Davenport, Hodges found evidence that one or two pairs of little blue herons may have nested among the great blue herons on the islands. If substantiated, this would be a major discovery so far north in the Midwest, although the little blue heron has nested as far north as Massachusetts in the East. Post-breeding little blue herons were seen near Port Clinton, Ohio, on Aug. 3 by Van Camp and Anderson (3 immatures) and in the same week near Sandusky, Ohio, by Preston (2 immature, 1 adult).

Ducks.—Although the ducks hatched in this region do not make up a significant fraction of the continental total, it is encouraging to find that those species which nest here regularly—wood duck, blue-winged teal, black duck, and mallard—had a good season. This was in contrast to most years recently when, except for the wood duck, hardly any broods were to be found in the best areas. An unusual find near Quincy was a wood duck nest in a cottage chimney eight feet from the top (Musselman).

Hawks and owls.—Since few people have an opportunity to study the birds of prey, the observations of Van Camp near Toledo are of special interest. Among 15 pairs of horned owls, only seven pairs raised young, and the total fledged was 10 (not all attempted to nest). Among 21 pairs of nesting screech owls, 11 were successful in rearing

young. Van Camp has concluded that among large cavity-nesting birds in his area — including the wood duck — the most important predator is the raccoon.

Gallinaceous birds. — The bob-white at last appears to be on the upgrade from the low point in its cycle. Nesting conditions this spring were excellent for the bob-white, as well as for the Hungarian partridge and ring-necked pheasant.

Cliff swallows. — The mysterious whereabouts of the cliff swallows listed for the Davenport area by Burtis H. Wilson in 1906 may have been explained this summer by Hodges, who discovered a few scattered pairs on the small bluffs bordering Duck Creek in Devil's Glen Park. However, it is possible that the more common practice of painting barns in the present day may have reduced the number of suitable nesting sites.

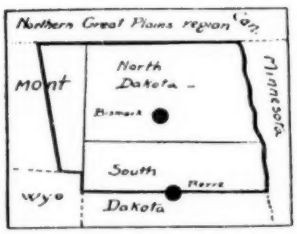
Songbirds. — Another must be added to the long list of strange nesting sites chosen by the prothonotary warbler. At Quincy a pair built in the ignition box of a bulldozer, which the owner considerately allowed to stand idle for the period required for the birds to complete their nesting.

Interesting warbler observations in the sand-scrub country at Indiana Dunes State Park include the following: on June 13 and 26 a male Lawrence's warbler was found accompanied by a female blue-winged warbler near the place where a similar pair were discovered last year (nest not found in either year); singing male Kentucky warbler on June 14; at least 20 pairs of prairie warblers, with nests found on June 26 and July 17 (H. R. Bennett, J. D. Watson, J. D. Watson, Jr.).

The western meadowlark seems to be making a slow advance eastward. According to Wilson writing in 1906, it was not known in the Davenport area at that time, although now it is common and increasing there (Hodges). At Rockford, Ill., the eastern and western meadowlarks are about equal in numbers (H. E. Bennett). In northwestern Ohio the western meadowlark is rare but is found occasionally in almost every locality where there are people who can recognize its song. How much of this seeming extension of range is a result of better and more extensive field work in the modern day, we cannot be certain.

Two nests of the alder flycatcher and one of the bobolink were unusual finds near Cincinnati, although both birds are common farther north in Ohio. The dickcissel, which in western Ohio is near the eastern limit of its range, returned for the second year (one or two pairs) to the Cincinnati area (Sloan). — HAROLD MAYFIELD, *2557 Portsmouth Ave., Toledo 12, Ohio.*

NORTHERN GREAT PLAINS REGION. — Weather conditions have been favorable, with less of the violent extremes of recent nesting seasons.



There were no late frosts and less than the usual numbers of destructive storms. In most localities May and June were deficient in moisture, and April and July considerably above average. The absence of late frosts resulted in the best crop of wild fruits in many years. High water levels during the early nesting season pushed the ground nesting birds onto safer grounds so flooding losses should have been light. The early ground nesters lost heavily to predators, but nesting success during the summer appears to have been better than for the past two or three seasons.

Marsh birds. — High water levels reduced the grebe populations in many favorite nesting areas such as the Des Lacs Refuge, Kenmare, N. Dak. The overall picture, however, was good, and the production of young probably a little better than usual. On the Lower Souris Refuge, Upham, N. Dak., the horned grebe was scarce, but the Holboell's grebe numerous. The production of white pelicans on the Chase Lake Refuge in North Dakota was again very good with an estimated 1100 raised. The food regurgitated by the young birds was 95% salamanders with the balance crayfish, perch, and minnows (Nelson). On the LaCreek Refuge, Martin, S. Dak., there were 22 pelican nests and 205 of double-crested cormorants (Krumm). The white pelican population on the Sand Lake Refuge, Columbia, S. Dak., was down 50% with 1000 birds present; the number of nests dropped 70%. The cormorant population and nesting was down 75%. The declines on Sand Lake were attributed to high water (Bradley). The cormorant colonies on the Lower Souris showed no change, although the great blue herons nesting with them increased.

Waterfowl. — The nesting Canada goose population on Lower Souris appears to have increased slightly; 22 nests were spotted from the air in one census flight (Wellein, Hammond). The first brood noted was on May 27. The duck situation has shown improvement for the first time since the end of the war. The spring flight was better and the nesting population greater. Early nesting success was very poor, but the results of late nesting were good. From the Des Lacs, observers reported an increase of 151% in brood numbers, and 181% in young produced over 1947 (Carpenter-Gammell). Other cooperators reported similar optimistic observations. The favorable trend did not hold for the baldpate, and canvas-backs were still woefully scarce. A brood of black ducks with 6 young was recorded on the Upper Souris Refuge, Aug. 3 (Smith-Hammond).

Hawks. — Two turkey vultures were observed near the Missouri River, July 6 (Carpenter-Gammell). The "summer population of marsh hawks and Swainson's hawks has shown a gratifying recovery from the drastic low of last season" (Des Lacs-Carpenter-Gammell). On the Lower Souris the summer hawk population was only fair. A pair of ferruginous rough-legs used the same nest that has been occupied for a number of years.

Upland game birds. — The low in the upland game bird "cycle" appears to have been passed, and the population trend is upward once more. In the Turtle Mountains of North Dakota the numbers of ruffed grouse are greater than any time in the past five years both in sight observations and in birds heard drumming (Wright). In the vicinity of the Lake Ilo Refuge, Dunn Center, N. Dak., ring-necked pheasant broods are larger than they have been for the past several years (Dinkins). A 25% increase was reported in the pheasant population on the LaCreek Refuge (Krumm). Many people feel that the recovery of the sweet clover will result in a rapid improvement in the upland bird populations.

Shorebirds. — Newly hatched young of the piping plover were observed June 27, on the Lostwood Refuge where they were again observed on July 16, at which time they were nearly full-grown (Carpenter-Gammell). Two piping plover nests were found on the shores of Buffalo Lodge Lake, Granville, N. Dak., on June 11 (Saugstad-Bach). A stilt sandpiper was observed on the Des Lacs on July 13 (Carpenter-Gammell). Occasional long-billed curlews were nesting in the LaCreek area (Krumm). The Wilson's phalarope was very scarce on Lower Souris, but probably due to high water, and the prevalence of abundant suitable habitat elsewhere. On the nesting island in Chase Lake about 200 California gulls and 700 ring-billed gulls were produced (Nelson).

Owls. — A pair of barn owls was resident in an unused barn on Lower Souris during July (Mr. & Mrs. Paul Hoffman). Burrowing owls showed an increase, as did short-eared owls.

Songbirds. — A small flock of purple martins lived on the Des Lacs Refuge headquarters from June 8 to July 9. They appeared to be first-year birds, and showed a great deal of interest in the bird house, even to the extent of carrying nesting material into the holes (Carpenter-Gammell). A pair of mockingbirds was present on the campus of Minot State Teachers College on June 1 and 2 (Hubbard-Saugstad). Sprague's pipit's were very scarce. A yearling male orchard oriole was conspicuous at the Lower Souris headquarters in early June. A group of 7 red crossbills were observed on the Upper Souris Refuge on June 27 (Carpenter-Gammell). A pair of spotted (Arctic) towhees were observed by twenty members of the the Sioux Falls Audubon Bird Club at Newton Hills near Canton, South Dakota, on July 1. (Donahoe-Hills) — C. J. HENRY, *Lower Souris Nat'l. Wildlife Refuge, Upham, N. Dak.*

TEXAS COASTAL REGION. — The first half of March was cool and wet, the second half warm and dry. The dry weather continued through April, was relieved by showers in mid-May, and resumed for the rest of the summer. June broke all records for long-continued high temperature. A remarkably late freeze on March 10 to 12 doubtless marked an early limit to the breeding season for most species; and the dry weather of June put an end to the season for most inland water birds. On the other hand the dry weather was excellent for land birds and even the extraordinary heat had no perceptible effect. Mockingbirds, cardinals, mourning doves, bronzed grackles, summer tanagers, painted buntings, red-headed woodpeckers, tufted titmice, Carolina chickadees, meadowlarks, and bob-whites had an extraordinarily successful season; and most of these species kept bringing off brood after brood till August. The marsh birds such as the purple gallinule, clapper rail, red-winged blackbird, boat-tailed grackle, and most of the herons throve during the first part of the season, except for the Florida gallinule which for some reason was relatively scarce. The long-continued drought and heat of late May and of June, however, dried up the marshes and put an end to the activities of these birds. Pairs which had been previously late or unsuccessful in nesting evidently did not try again; for by early June most of the inland rookeries, which are normally occupied till mid-July, were completely deserted. As a result, the crop of young spoonbills, egrets, night herons, least bitterns, white ibises, and willets was small this year. Fulvous tree ducks were plentiful early in the season, and many of them raised broods in the artificially flooded rice fields; but even these birds were less numerous toward the end of the season than toward the beginning, and some had started migrating south in early July. In passing, it may be mentioned that the expansion of rice farming in the region has virtually exterminated the Attwater's prairie chicken, but has afforded sanctuary and feeding grounds for countless breeding, migrant, and wintering water birds.

Sea birds. — For various reasons, no complete survey of the breeding colonies of gulls, terns, and pelicans was made this year. But, judging from the reports available as well as the large number of young on the wing in late July and early August, these birds had a successful season. Rains and high tides are always the chief enemies of these

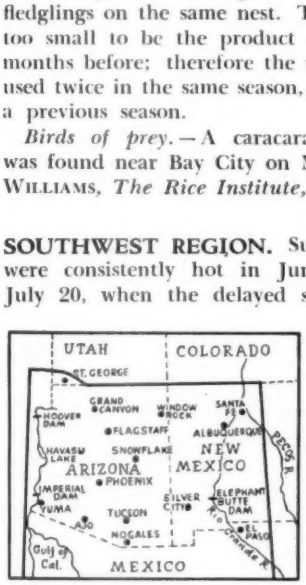
birds in the breeding season; but since neither rains nor abnormally high tides occurred, the birds must have had a good year.

Marsh birds. — The birds on the Audubon Society sanctuary on Vingt'un Island in Galveston Bay had a normally successful year, with roseate spoonbills and white-faced glossy ibis doing especially well. The large colony near Bay City, where the birds depended on streams and marshes, rather than the sea, for food, did well only at the beginning of the season. The white ibis, the white-faced glossy ibis, and both the night herons did rather poorly even then. By early June this colony was completely deserted. On May 12 young white ibis and roseate spoonbills were flying awkwardly about near Bay City. The following data are from McKay, at Cove: four green heron nests (1 to 4 eggs) on May 9 and May 30; two least bittern nests (1 and 2 eggs) on May 9; many purple gallinule nests were under construction, and several with 1 to 3 eggs on May 9; killdeer nest with 4 eggs on March 28, but eggs not hatched by April 14; eleven black-necked stilt nests with 33 eggs on April 29, and 29 nests with 93 eggs on May 9; three least tern nests with 4 eggs on May 9.

Doves. — Last year a mourning dove built a nest and raised young in a live oak tree on the Rice campus; the nest survived the winter and was occupied again in April, when the bird was seen incubating. In mid-August she was brooding two fledglings on the same nest. These fledglings were too small to be the product of the eggs of four months before; therefore the nest must have been used twice in the same season, and at least once in a previous season.

Birds of prey. — A caracara nest with 3 eggs was found near Bay City on May 12. — GEORGE G. WILLIAMS, *The Rice Institute, Houston, Texas.*

SOUTHWEST REGION. Summer temperatures were consistently hot in June and until about July 20, when the delayed summer rains began falling. Precipitation has been spotty, so that many areas are still in an arid condition, and the overall drought continues unbroken awaiting the recurrence of the wet cycle.



Loons, grebes, and pelicans. — A red-throated loon, probably the same individual, was seen at Havasu Lake, June 8 and 15 (Monson). A summer record for the eared grebe on the lower Colorado River was one seen at Headgate Rock Dam near Parker, Ariz., June 15 (M.). Pied-billed grebes had begun returning to Havasu L. by July 9 (M.). A white pelican near Benson, Ariz., July 17, was reported to L. Hargrave.

Cormorants, herons, and ibises. — The double-crested cormorant colony at Lakeside, Ariz., this year contained but two nests (L. Levine). The colonies at Topock, Ariz., were holding their own, with young still in the nest as late as July 7 (M.). A great blue heron rookery is now active at Gillespie Dam on the lower Gila River, Ariz. (W. Pulich). The last spring snowy egrets were seen at Snowflake, Ariz., June 6 (L. L.); a colony was newly-established at Topock, with at least 20 nests, young mostly on the wing by July 7. Last summer only three nests of this species were found in the Topock area, at a location different from the present colony. This is believed to be a new breeding bird in Arizona (M.). Juvenile black-crowned night herons, out of the nest but weak on the wing, were seen near Topock, July 21 (R. Hitch, M.). The first summer record of wood ibis comes from near Buckeye, Ariz., July 7, when about 35 were seen (W. P.).

Waterfowl. — Young mallards were noted near Topock, June 18 (M.), and near Buckeye, July 7 (W. P.). At least 20 gadwalls were summering near Topock, where they were not known to breed (M.). Evidence that cinnamon teal nest in southern Arizona comes from a record of seven small young and five adults seen near Buckeye, July 7 (W. P.). A shoveller was noted near Pima, Ariz., July 25 (W. P.). A male lesser scaup duck was seen at Arivaca Junction, Ariz., July 21 (W. P.). A ruddy duck was observed at the same place, June 10 (A. Phillips, C. Vorhies). Two red-breasted merganser females were present at Havasu L. until June 10; thereafter one was noted June 16 and July 30 (M.).

Hawks. — An osprey was present near Benson from about July 10 to July 17, reported to Hargrave; one was noted at Havasu L., July 30 (M.). A pair of duck hawks was seen circling above the Patagonia Mts., Ariz., June 26 (A. P., T. Hall). Young sparrow hawks were still being fed in the nest the third week in July at Tumacacori National Monument, Ariz. (B. Jackson).

Rails, gallinules, and coots. — A clapper rail was seen at Headgate Rock Dam, June 6; adults and young were seen at later dates, including both adults and three young, July 17 (M.). Young of both Florida gallinules and coots were noted near Buckeye, July 7 (W. P.).

Shorebirds. — An early snowy plover was seen at Havasu L., July 13; 30 were seen near Topock, July 21 (M.). Two long-billed curlews were seen in the Bill Williams Delta, Ariz., June 6, and one at Havasu L., June 10 (M.); two were seen at Havasu L., July 9 (S. Platford, M.), and others later in July. The last spring spotted sandpiper was seen in the Bill Williams Delta, June 6; the first fall arrival at Havasu L., July 9 (M.). They

were present all summer at Snowflake, Ariz. (L. L.). Returning willets were noted at Havasu L., June 28, when five were seen (M.). An unusually early greater yellow-legs was noted in the Bill Williams Delta, June 24 (M.). The first returning least sandpipers were seen at Havasu L., July 13; the first western sandpiper at Havasu L., July 9 (M.). Marbled godwits were returning at Havasu L. by July 9, when 42 were observed (M.). The first returning avocets were noted at Havasu L., July 9 (M.). The last spring black-necked stilts were 16 seen at Headgate Rock Dam, June 6 (M.); the first returning birds were about 15 seen near Buckeye, July 7 (W. P.). Earliest returning Wilson's phalaropes were seen near Topock, July 14 (M.).

Gulls and terns. — The first returning ring-billed gulls were noted at Havasu L., July 30 (M.). A straggling Heermann's gull was seen at Needles Landing on Havasu L., July 13 (M.). Three Forster's terns noted near Topock, July 7, were unusually early returning migrants; more than 50 were seen at Havasu L., July 30 (M.). Late black terns were one seen at Arivaca Junction, June 10 (A. P., C. V.), and three near Topock, June 18 (M.); first returning migrants were noted near Topock, July 21 (M.).

Doves through kingfishers. — Mourning doves were reported as "exceedingly common" at Grand Canyon Village, Ariz., (H. Bryant). At Tempe, Ariz., where a dense growth of tamarisk now occupies the bed of the Salt River, white-winged doves have been nesting commonly for the last five years (L. Yaeger). A very early yellow-billed cuckoo was seen at El Paso, Texas, May 23 (L. McBee). A road-runner's nest containing two eggs was found 12 feet from the ground in the skeleton of a dead sahuaro, at Sand Tanks southeast of Gila Bend, Ariz., June 15 (W. P.). A freshly-dead long-eared owl was discovered floating on Havasu L., July 9 (S. P., M.). Young black-chinned hummingbirds left the nest on July 14, apparently an unusually late date, at El Paso (E. Barlow). Coppery-tailed trogons in the mountains of southeastern Arizona appear from all reports to be declining in numbers after their recent peak.

Flycatchers. — An Arkansas kingbird nest was found 4 feet up in a cholla cactus southwest of Congress Junction, Ariz., June 24 (W. P.). An ash-throated flycatcher was feeding its young the pulp of sahuaro fruit near Tucson, Ariz., June 28 (W. P.). Black phoebes were returning to the lower Colorado River Valley from their breeding grounds by June 24 (M.). One was seen at Showlow, Ariz., June 8 (L. L.). A few Traill's flycatchers are still nesting at Feldman, Ariz., on the lower San Pedro River, although the water has been drained from the swamp (A. P., T. H.). Others were nesting at Radium Springs, N. Mex., June 13 (L. M., R. Allen). The last migrant western flycatcher was noted at Havasu L., June 15 (M.).

Swallows. — The last seen of the violet-green swallows breeding in the Parker Dam, Ariz.-Calif., area was noted June 27 (M.). Young were still being fed in the nest at Ruidoso in the Sacramento Mts., N. Mex., July 17-18 (L. M., R. A.). Two tree swallows seen near Topock, June, 18, were apparently summering; first returning migrants were noted there July 7 (M.). Several flew south low over Feldman, July 18 (A. P., T. H.). A colony of at least 20 bank swallow nests along the Rio Grande in New Mexico, about 12 miles above El Paso, contained young being fed on June 10 (L. M., R. A.). This colony is much smaller now than when it was discovered in 1939, and is believed to be the only colony in the Southwest Region. The young of barn and cliff swallows were already on the wing here, June 10 (L. M., R. A.). The purple martins of the Tucson vicinity apparently no longer roost near the city; virtually none have been seen passing over town this summer (A. P.).

Wrens through vireos. — At least one Bewick's wren was busily helping a pair of cardinals feed their young in early June at Tumacacori National Monument (B. J.). An exceptionally early migrant ruby-crowned kinglet was seen at Snowflake, July 28 (L. L.). Eight phainopeplas were seen near Parker Dam as late as June 10 (M.); a nest was being completed at Radium Springs, June 13 (L. M., R. A.). A pair of Bell's vireos at Tumacacori National Monument built four nests and laid at least 14 eggs — and still didn't raise any young. The first nest was begun April 7, and the last egg laid June 27 (S. Brewer). First returning warbling vireo was seen on the Colorado River Indian Reservation, below Parker, July 17 (M.).

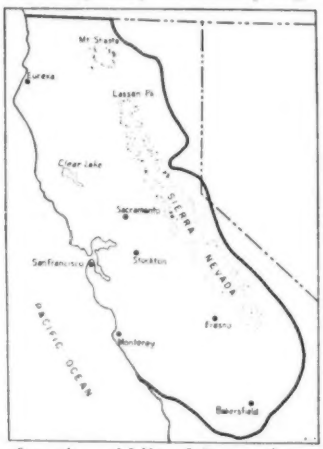
Wood warblers. — A Lucy's warbler nest containing young was discovered at Radium Springs, June 13. This is the second record for the species in the Rio Grande valley in New Mexico, and the first breeding record. This may indicate that the species is extending its range eastward (R. A., L. M.). Flying young of the Macgillivray's warbler were seen at Ruidoso, July 17, 18 by same observers.

Blackbirds and tanagers. — A stray western meadowlark was seen at Needles Landing on Havasu L., June 8 (M.). An exceptionally early flock of Brewer's blackbirds, all males, were observed at El Paso, July 24 (L. M.). A flock of eight great-tailed grackles was seen near Bonita in the Sulphur Springs Valley, Ariz., July 24, and a lone male four miles west of Douglas, Ariz., July 22 (W. P.). The western tanager is reported as almost absent at Grand Canyon Village, where formerly it was a common nesting bird (H. B.). A male had returned to Feldman by July 18 (A. P., T. H.). A pair of hepatic tanagers was observed feeding young near the Reef Mine in the Huachuca Mts., Ariz., July 26 (H. Crockett).

Finches and sparrows. — A flock of red crossbills containing both adults and streaked young, the latter quite adept on the wing, was seen at Grand

Canyon Village, June 6 (H. B.). Little is known concerning the nesting of this bird in this region. Several Cassin's sparrows were noted singing near the headquarters of the Jornada Experimental Range, N. Mex., June 21 (L. M., G. Bradt, D. Harrison). — GALE MONSON, *Havasu Lake Nat'l. Wildlife Refuge, Parker, Ariz.*

MIDDLE PACIFIC COAST REGION. — Nesting of birds in the lowlands of central California was delayed by the cold spring, and thus it was not seriously hindered by the April and May rains. These brought an abundant plant growth, especially of annuals and grasses. Many kinds of shrubs and trees had abundant flowers and good prospects for heavy crops of fruit. These favorable conditions continued after the middle of June when clear, warm weather came. For a month there was no serious hindrance to nesting, and a high proportion of the nestings were completed successfully. This contrasted with the many failures earlier in the season. High temperatures in mid-July reduced the insects and water. This terminated the nesting abruptly and it was followed by wholesale departures of birds.



An area not previously represented in these reports is that of the Audubon Nature Camp at Norden, Calif., in the Sierra Nevada. Conditions and birds there contrast greatly with those at the more familar lower levels. The full report of observations for the season assembled by Howard Cogswell provides a basis for evaluation of records from there in subsequent years. All localities mentioned are in California unless otherwise indicated.

Water birds. — The following include time and place of nesting as well as record of occurrence for species of uncertain status: sooty shearwater, Devil's Slide, many offshore on July 3 (Rigby); white pelican, mouth of Pajaro River, 6 on July 18 (Andersons); Brandt's cormorant, Devil's Slide, 12 nesting on June 27 (R.); American egret, 3 miles S. Alviso, young in nests in eucalyptus grove (E. Smith); gadwall, lower Pajaro River, 50 on July 11 (A.); old-squaw, Asilomar, 1 on rock near shore on June 19, possibly an injured bird, allowed approach within 20 feet (Pursell); white-winged scoter, Moss Landing, 3 females on July 17 (A.); ruddy duck, El Estero, Monterey, female with brood of half-grown young on June 23 (Williams); red-breasted merganser, Moss Landing, 2 females on July 17 (A.).

Hawks. — There are indications of a perceptible, general reduction of hawks in this region in the last ten years. These birds deserve closer attention than they generally receive. Locations or stage of nesting are shown by the following records: osprey, Huntington Lake, 1 on July 25 (Rigby); prairie falcon, Mt. Rose, at 10,700 feet, Washoe Co., Nev., 1 took flight from near top on July 11 (Cogswell); duck hawk, Devil's Slide, 3 on June 27 and July 3 (R.); sparrow hawk, Pacific Grove, adult feeding 2 young out of nest on June 21 (Williams).

Quail. — The valley quail had a better year for nesting in northern Monterey County than for a decade. There was high survival of broods despite the general drought, but the scarcity of water through the summer caused concentrations about favorable sites. These examples show progress of nesting: mountain quail, vicinity of Donner Pass, nest with 11 eggs on July 3 hatched 23 days later (Cogswell), Huntington Lake, 2 families of 8 to 10 birds, July 28 (Rigby); valley quail, San Antonio Valley, Santa Clara Co., female with young on June 20; Joaquin Miller Park, Oakland Hills, female with young on June 25 (Seibert).

Shorebirds, gulls, and terns. — Mrs. Kelly found shorebirds abundant in the vicinity of Alameda, but there were no rarities and no early records. The Andersons report that the great concentration of shorebirds at Moss Landing last year was not found this year. Notable records: black-bellied plover, Moss Landing, 60 on July 25 (Andersons); semipalmated plover, Berkeley Yacht Harbor, 1 on July 11 (Pursell), salt marsh near Alviso, about 100 on July 26 (E. Smith); snowy plover, Moss Landing, 4 young able to fly on July 18 (A.); Hudsonian curlew, near Alviso, 23 on July 26 (E. S.); long-billed curlew, Moss Landing, 1 on July 17 (A.); spotted sandpiper, Lake Van Norden, young one-third grown on July 12, Donner Lake, small young on July 13 (Cogswell); willet, near Palo Alto, 200 to 300 on July 17 (Dietz); black-necked stilt, Moss Landing, few on July 25 (A.), near Alviso, 14 on July 26, at least 6 young and 2 parents (E. S.); avocet, near Alviso, about 50, more than half in juvenile plumage, on July 26 (E. S.); Bonaparte's gull, KRE pool, Berkeley, 2 on June 2 (Kelly); Caspian tern, Dumbarton Bridge, young about a week old on June 6 (Rigby), Moss Landing, 38 on July 17, but no young (A.).

Non-passerine land birds. — The abundance of flowers in early summer made it possible for hummingbirds to live in some areas where for several years they had been scarce. Among the species mentioned here swifts were reported prominently: mourning dove, Corral de Tierra, several gathering nesting material on July 11 (Andersons), Los Gatos, 1 flushed from nest with eggs on July 31 (E.

Smith); nighthawk, Carmel Highlands, 1 on June 14, not previously seen in this area (Williams), Huntington Lake, adult and 2 young 1 or 2 weeks old on July 25 (Rigby); black swift, Anderson Creek, Monterey Co., about 10 at bridge on June 13 and 20 (A.); Vaux's swift, Los Gatos, 6 on July 9, at least 12 entered a chimney on July 29 and nests thought to be located there (E. S.), Mt. Hermon, 1 near on July 15 (Nielsen); white-throated swift, Alum Rock Park, young being fed and adults entered cracks in cliff on July 17 (Hill); pileated woodpecker, Howell Mountain, at least 2 large young being fed in a nest on June 16 (Kelly).

Passerine birds. — The following records generally reflect the favorable conditions described previously: black phoebe, Los Gatos, nest with fresh lining and male singing on July 31 (E. Smith); olive-sided flycatcher, S. of Alma, 3 fledglings being fed on July 31 (Neilsen); bank swallow, between Moss Landing and Watsonville, large colony on June 27, about 200 holes in sand cut and young being fed in them, holes near top of bank used first, 12 birds in the air on July 25, but eggs and dead young at the base of the cut (Andersons); purple martin, Soquel, 2 on June 7 (Ferguson), S. of Alma, 1 on July 18 (N.); Steller's jay, Carmel Highlands, young being fed on July 14 still in nest on Aug. 1 (Williams); yellow-billed magpie, New Monterey, 6 in flock, all birds of the year, on July 17 (Pitelka); chestnut-backed chickadee, Joaquin Miller Park, young being fed out of nest on June 30 (Seibert); brown creeper, Joaquin Miller Park, young out of nest fed by parents on June 30 (S.), near Donner Summit, adult feeding young on July 5 (Cogswell); Townsend's solitaire, Galena Creek Camp, Washoe Co., Nev., nest with 4 large young on July 9 (C.), Huntington Lake, 2 feeding young on July 25 (Rigby); hooded oriole, Pacific Grove, first year male on July 8 (P.), Oakland, several near a palm on Seminary Avenue on July 30 (S.); Bullock's oriole, Sequel, group of adults and young out of nest on June 19 (Richardson); western tanager, near Soquel, June 4 (Ferguson), Los Gatos, 2 pairs in vicinity after early June, male fed young not long out of nest on July 31 (E. S.), Dimond Park, Oakland, parent feeding young out of nest, July 6 (S.); evening grosbeak, 3 mi. S. Soda Springs, male fed female in tall Jeffrey pine on July 1; after similar feeding on July 7, female went to nest 50 or 60 feet up in a tuft of needles at end of long branch of the pine (C.); red crossbill, Carmel, 21 in flock on June 11, last for season (Williams); rufous-crowned sparrow, in hills E. Milpitas, 1 feeding young out of nest on July 18 (Wool); Bell's sparrow, S. Alma, many in chaparral at 3000 feet on July 18 (N.). — JEAN M. LINSDALE, *Hastings Reservation, Jamesburg Route, Monterey, Calif.*

CHANGES IN SEASON REPORTING

Our readers will note a number of changes in the organization of reports for "The Changing Seasons" in the last two issues. The old Missouri, Middle Western, and Ohio Regions have been consolidated and expanded to make the new Midwestern Prairie Region, edited by Harold Mayfield. We wish to express our thanks to both James W. Cunningham and Emmet R. Blake, who have been acting as season editors of consolidated portions of this new region, for the fine work that they have done and which it was necessary for them to discontinue because of press of other duties.

Other changes which may be noted in this and the last issue are the expansion of the old Boston Region to become the Northeastern-Maritime Region, and the old New York City Region to the Hudson-St.Lawrence Region, both retaining the same veteran season editors, Messrs. Griscom and Nichols respectively; also the expansion of the old Philadelphia Region to become Middle Atlantic Coast Region with the addition of Dr. J. J. Murray as Season Editor to work with Julian K. Potter.

The addition of the entirely new Southwest Region with Gale Monson as Season Editor is very welcome because it is characterized by the very interesting desert-scrub community of the Southwestern United States and northern Mexico.

We regret that it was not possible to include a report for the Southern Pacific Coast Region in this issue because Howard Cogswell has found it necessary to discontinue his service as Season Editor to attend the University of California at Berkeley. Fortunately, however, the reports on this important region will be continued in future issues with Kenneth E. Stager of the Los Angeles Museum as Season Editor.

We are also glad to inform you that we will soon be able to read reports from the old Utah Region, which will be expanded to become the Great Basin-Central Rocky Mountain Region under the editorship of John B. Van den Akker of the Bear River Migratory Bird Refuge, Brigham, Utah. Several reports of additional new regions will appear in future issues. — *Editor.*

SIGNIFICANCE OF NUMBERS IN CHRISTMAS COUNTS

I have just received my copy of the *Audubon Field Notes* reporting the 48th Christmas Bird Count, and since one aspect of these reports has been rankling in my breast for several years I am taking this opportunity to make a few comments on bird counting in specific and the handling of numerical data in general. I refer, of course, to the matter of significant figures. As far as the value of the Christmas Counts, both in the semi-scientific and the recreational sense, the matter is minor but I do believe that if the data collected in these counts is to have any real scientific meaning the numerical results should be handled in a neater fashion.

Of all the counts reported this year I believe that probably only one has any degree of accuracy. The observers at Mt. Greylock, Mass., reported that they saw 26 individuals. This is probably correct or at least they saw between 25 and 27. However, as an example of erroneous or misleading information let us examine the Reelfoot Lake, Tenn., report. This is only the most spectacularly glaring example since nearly all other reports contain the same error. These observers report that they *estimated* 2,000,000 red-wings. They also saw one hairy woodpecker. So far their total is 2,000,001. They then estimated 10,000 mallards and saw 3 kingfishers. Thus, their count is now 2,010,004. They proceed and total all the species seen and report that they saw "approximately 2,012,655 individuals." By the way, since no observer has yet reported half a bird in the field this number is not approximate but is very precise down to the limiting unit, i.e., one bird. The error in this reasoning is very obvious to anyone familiar with treating numerical data. The figure 2,000,000 in reality means a number between 2,500,000 and 1,500,000 or a maximum uncertainty of 500,000.. I do not have any idea as to the competency of these observers but having had considerable experience in counting birds in the field, I feel that a maximum uncertainty of 300,000 is not a bad piece of counting. Actually, of course, for inexperienced observers the maximum uncertainty might be 1,000,000 or more. If this is true, then these observers actually saw 2,012,655 $\pm$ 300,000 individuals or more exactly 2,000,000 $\pm$ 300,000.

If this sort of thing is totaled for all the 314 counts we arrive at a considerable uncertainty in the total number of individuals listed. The editors do round off this total to the nearest thousand (5,573,000) but this is not enough. The Reelfoot Lake data alone tell us that the figure lies between 5,900,000 and 5,300,000. A value of 5,600,000 might not be such a bad estimate. Of course, the maximum uncertainties in the other reports must also be included. However, these will in general be much smaller than the uncertainty in the Reelfoot Lake report. The report of the birds of Monomoy Point, Mass., indicated at least a difference in the estimates of the number of eider ducks of 200,000, although the maximum uncertainty is probably less than this figure. Of course, the listed total of all birds counted has no special significance although the editor does remark that 1947 set a new record for the total over that given in 1944 when in reality the two numbers are the same as far as the precision of the data goes.

To sum up my position then; it is meaningless gibberish and pseudo science to add an estimated 1,000,000 to a precisely counted 67 and arrive at a total of 1,000,067. Nor is it correct to report the data as was indicated in an article in the *Audubon Magazine* some time ago (Hendricks, *Audubon Magazine*, 1946, p. 306) in which the author stated that the "more accurate" way of reporting the total of an estimated 1000 and a counted 23 as being 1000 $\pm$23. This is nonsense. The only way to so report it is 1000, 23. This then clearly indicates that there is an uncertainty in the figure 1000. If this uncertainty is known then we might report we saw 1000 $\pm$ 50, 23 individuals.

Of course, I am probably guilty of quibbling in this matter but at least I am unburdening myself of a long-standing source of irritation. I have had the feeling for many years that all too many field biologists were sadly lacking in the understanding of fundamental mathematical and physical principles of which this is only one example. Surely with the inclusion of Fish and Wildlife Service people in the publication of the *Field Notes* a better and more scientific approach to this question could be adopted. I observe at least that the Service reports the continental duck population to the nearest million and not "approximately" to the nearest duck.

On second thought, perhaps the Audubon Society is merely following in the footsteps of the patron saint, John James, who, if my memory is correct, once reported a flock of passenger pigeons of several billion in total to ten significant figures, that is accurately to the nearest pigeon.

GEORGE A. HALL
Instructor in Chemistry

University of Wisconsin
Madison, Wisc.

P. S. I have not yet made up my mind as to the significance of the one half bird per acre reported in the Breeding-Bird Census but this is probably correct enough.

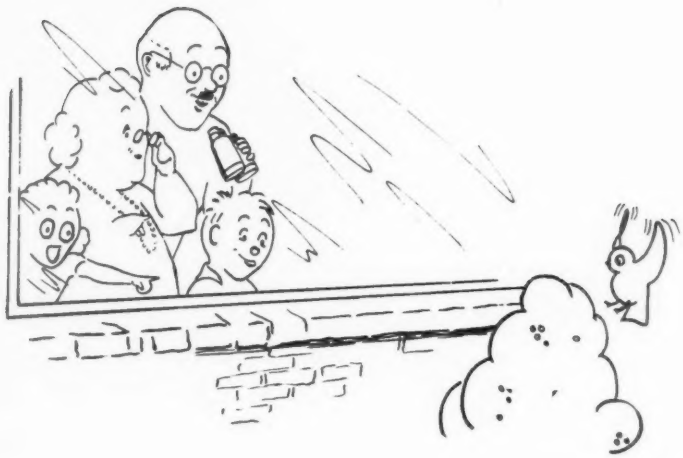
Editor's Note:

The preceding letter is printed in its entirety because it seems to represent a valid criticism of our methods of presenting numerical data based on field counts of birds. I think that all of us who make counts or estimates of numbers of birds seen would like to feel that these observations may be useful in appraising the abundance of a species for comparative purposes. Christmas Bird Count figures already have been used in publications for this purpose and it behooves us to present the data in a form that will be as useful as possible. The editors will take these suggestions into consideration in formulating the instructions for making Christmas Counts and will try to devise a method embodying the principle without so complicating the census procedure that amateur bird observers will become discouraged and abandon what is now a popular activity.

And

Dates for Christmas Count 1948

December 25 — January 2



Harold A. Gray

(Revised instructions November 1948)